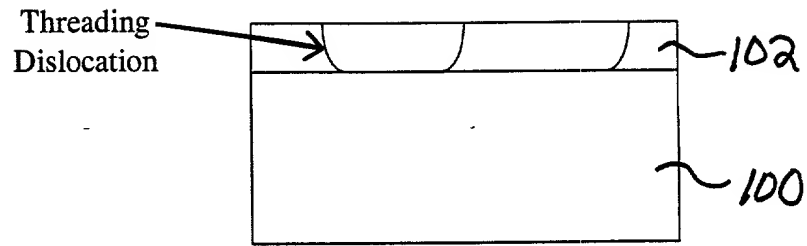


Figure 1A



1. Deposit lattice mismatched layer at low T

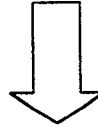
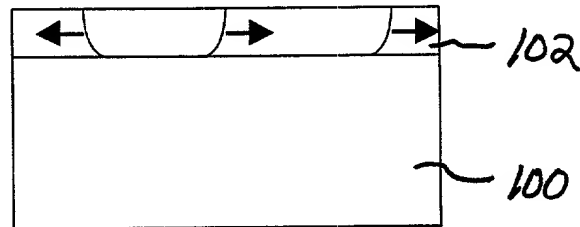
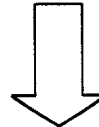


Figure 1B



2. Anneal at high T to increase dislocation flow and reduce dislocation density



4. Repeat anneal and deposition until desired structure is achieved

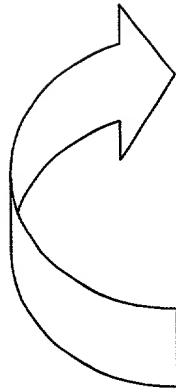
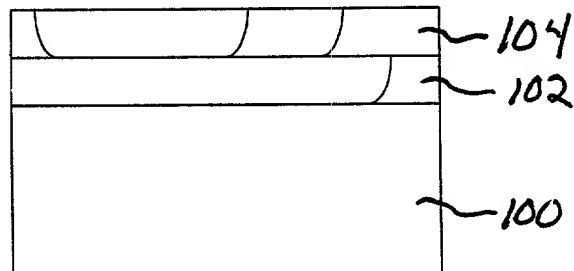
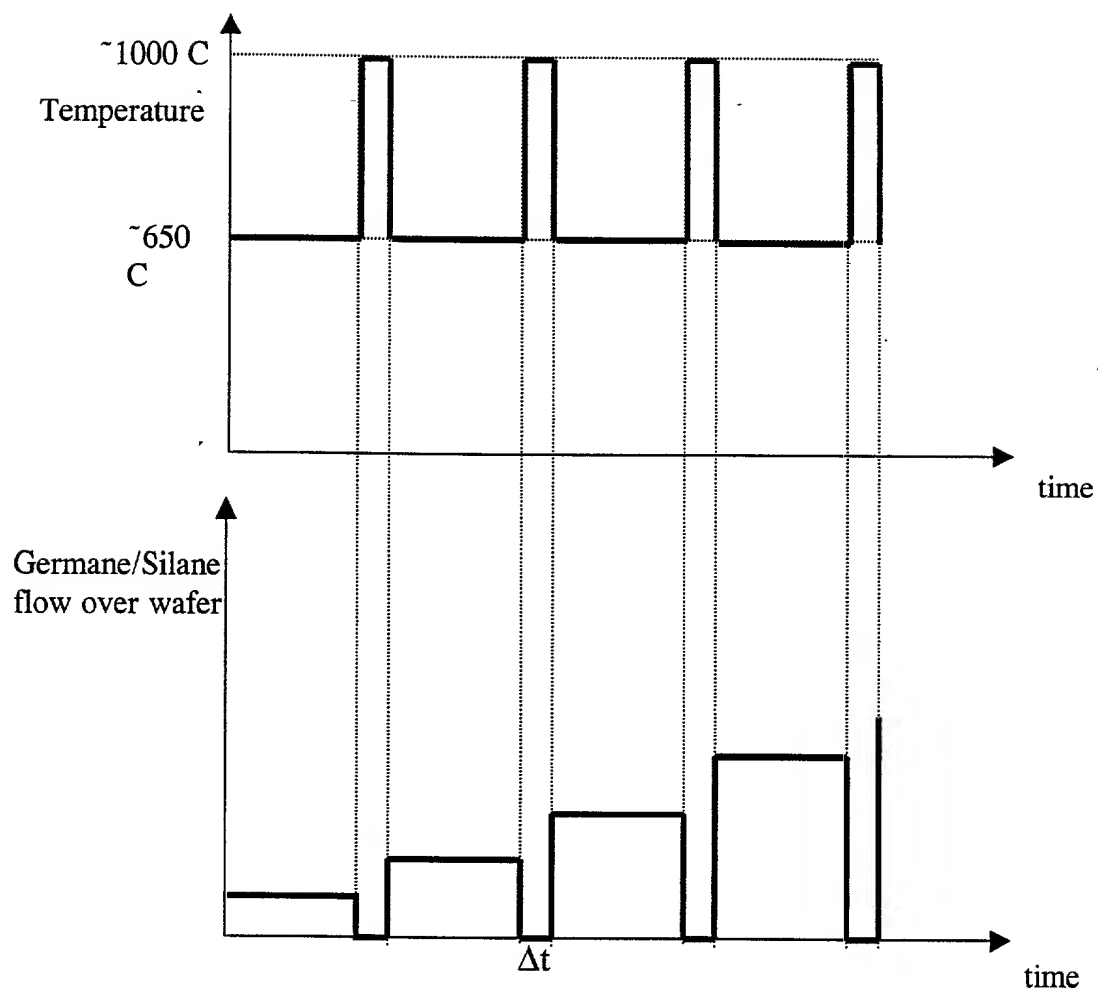


Figure 1C

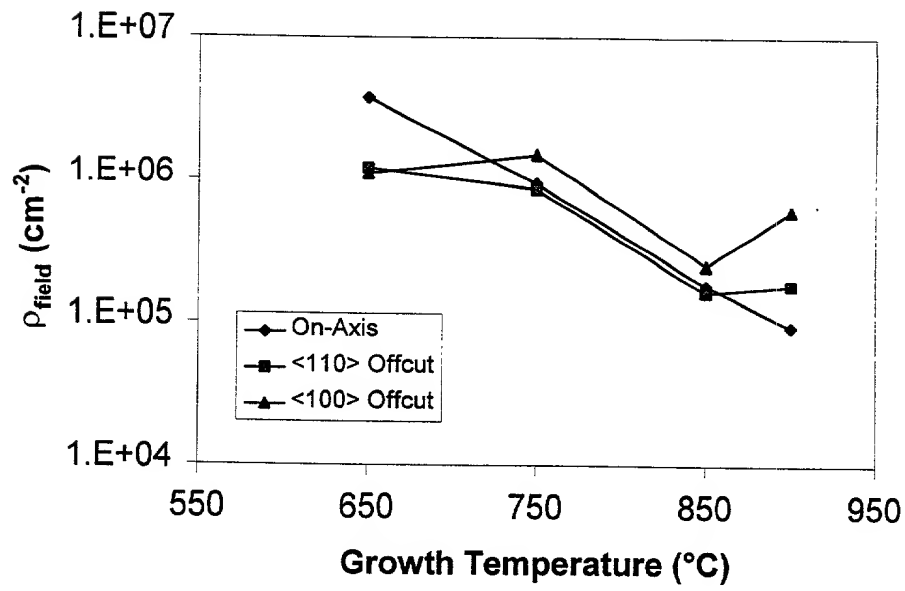


3. Deposit subsequent layer with increased lattice mismatch at low T



**Figure 2**

**Glide Kinetics Series (30% Ge): Field TDD vs.  
Growth T**



**Figure 3**

### Change in Effective Strain to Fit Data

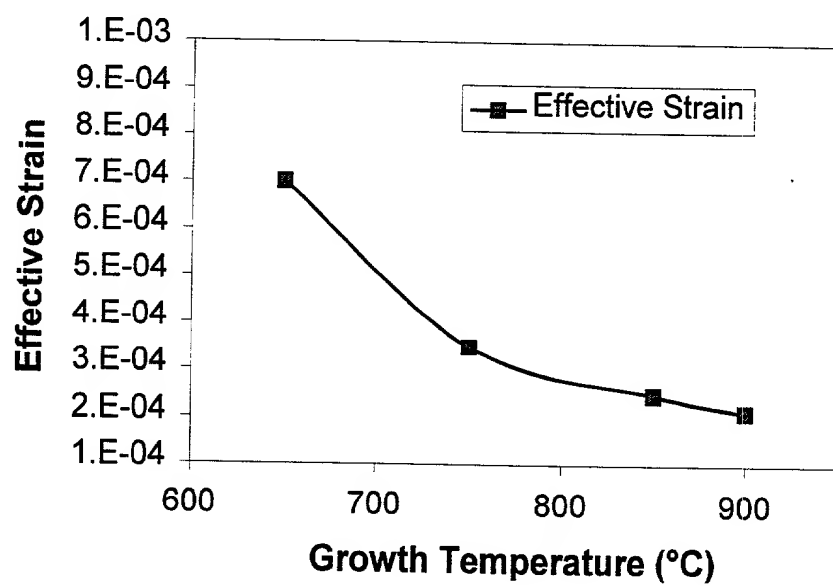


Figure 4

Sample	Total Threading Dislocation Density (#/cm <sup>2</sup> )	Field Threading Dislocation Density (#/cm <sup>2</sup> )
20% SiGe on Si with graded buffer as grown	$1.36 \times 10^6$	$1.31 \times 10^6$
20% SiGe on Si with graded buffer after a 5 min anneal at 1050°C	$7.25 \times 10^5$	$5.48 \times 10^5$

**Figure 5**